



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/585,971

07/13/2006

Rudiger Kolblin

016906-0530

6190

22428 7590 11/10/2009
FOLEY AND LARDNER LLP
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

DUKE, EMMANUEL E

ART UNIT

PAPER NUMBER

3744

MAIL DATE

DELIVERY MODE

11/10/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/585,971	Applicant(s) KOLBLIN ET AL.	
	Examiner EMMANUEL DUKE	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06/30/2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7, 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Fuerschbach et al. (U.S. Patent No. 4,872,578), hereinafter referred to as Fuerschbach et al. '578.

Regarding Claim 1, Fuerschbach et al. '578 disclose a heat exchanger having a plate-type design (10, Fig. 1: Col 3, line 8), comprising: at least two adjacent heat exchanger plates (12, Fig. 1: Col 3, lines 9-10) defining an inter-space (34, Fig. 1: Col 1, lines 21-25 and Col 5, lines 16-22, wherein a flow path between turbulator is an inter-space) through which a heat exchanger medium (Col 1, lines 13-15 and Col 5, lines 14-22, wherein a fluid is a heat exchanger medium): or a second medium: to be cooled or to be heated flows (Col 1, lines 9-15): wherein the at least two adjacent heat exchanger plates are arranged in a stack (Fig. 1: Col 1, lines 9-15), and a base plate (46, Fig. 1: Col 4, line 29, wherein a bottom plate is a base plate), wherein the base plate is provided at one end of the stack (as shown in Fig. 1), wherein the base plate is in at least substantially flat (as shown in Fig. 1) contact with an adjacent outermost heat exchanger plate (Fig. 1: Col 4, lines 55-57) of the heat exchanger, wherein the base plate comprises a depression (48, Fig. 1: Col 4, lines 29-30) with a contour having a shape corresponding to one of the heat exchanger (Fig. 1: Col 4, lines 55-59, wherein the depression is shown with a contour and a shape corresponding to the shape 18 of 12).

Art Unit: 3744

Regarding Claim 2, Fuerschbach et al. '578 discloses the heat exchanger as claimed in claim 1, wherein flanks (14, *Fig. 1: Col 3, lines 13-15, wherein a flange is a flank*) of the outermost heat exchanger plate bear, at least in a lower region of the flanks (*Col 3, lines 15-17*), against flanks of the contour of the base plate, wherein the contour formed by the depression is recessed (*Fig. 1: Col 4, lines 55-59, wherein the contour of the depression is shown as a recessed*) in the based plate.

Regarding Claim 3, Fuerschbach et al. '578 discloses the heat exchanger as claimed in claim 1: wherein one edge of the outermost heat exchanger plate protrudes (*Fig. 1: Col 3, lines 15-17, wherein a downward extension is a protrusion of the heat exchanger plate*) over the base plate.

Regarding Claim 4, Fuerschbach et al. '578 discloses the heat exchanger as claimed in claim 1, wherein the depression in the base plate has a thickness greater than a material thickness (*Col 4, lines 29-32*) of one of the at least two heat exchanger plates.

Regarding Claim 5, Fuerschbach et al. '578 discloses the heat exchanger as claimed in claim 1, wherein the depression in the base plate has a depth (*Fig. 1: wherein a cross-section thickness of the base plate is a depth*) at least as great as a material thickness of one the heat exchanger plates (*Fig. 1: wherein a cross-section thickness of an circular opening (20) as shown, is a material thickness of one of the heat exchanger*) plus half of a clear height (*Fig. 1: wherein half the height of a tabulator (34) is half of a clear height*) between the outermost heat exchanger plate, which bears against the base plate, and a second outermost heat exchanger plate (12' *Fig. 1: Col 3, lines 9-13*).

Regarding Claim 6, Fuerschbach et al. '578 discloses the heat exchanger as claimed in claim 1, wherein the depression in the base plate is at least as deep as a material thickness (*Fig. 1: wherein a cross-section thickness of an circular opening (20) as shown, is a material thickness of one of the heat exchanger*) of one of the at least two heat exchanger plates (*Fig. 1: Col 3, lines 9-13*) of the heat exchanger plus a clear height (*Fig. 1: wherein half the height of a*

Art Unit: 3744

tabulator (34) is half of a clear height) between the outermost heat exchanger plate, which bears against the base plate, and a second outermost heat exchanger plate (12' Fig. 1: Col 3, lines 9-13).

Regarding Claim 7, Fuerschbach et al. '578 discloses the heat exchanger as claimed in claim 1, wherein the contour in the base plate is produced by embossing, casting or machining (Col 4, lines 29-32).

Regarding Claim 13, Fuerschbach et al. '578 discloses the heat exchanger as claimed in claim 1, wherein the contour of the depression has a shape (Fig. 1: Col 4, lines 29-30, wherein depression oval shape is a shape) that matches a shape of an outer edge of a bottom surface (Fig. 1: Col 4, lines 55-59, wherein the contour shape of a annular base portion is a shape of an outer end edge of a bottom surface) of the one heat exchanger plate.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-12, are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuerschbach et al. '578, in view of Kull et al. (U.S. Patent No. 5,931,219), hereinafter referred to as Kull et al. '219.

Regarding Claim 8, Fuerschbach et al. '578 discloses the heat exchanger as claimed in claim 1, however, he does not disclose the limitation of wherein the base plate has at least one

Art Unit: 3744

supply opening for the heat exchanger medium or the second medium. Kull et al. '219 teaches: a base plate (35, Fig. 3- 4: Col 4, lines 8-14) with at least one supply opening (33, Fig. 3- 4: Col 4, lines 8-14) for the heat exchanger medium or the second medium.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Fuerschbach et al. '578 base plate to include the use of a base plate with at least one supply opening as taught by Kull et al. '219 in order to provide a design possibilities with regards to the position of the communication ports for a two heat exchange media (Kull et al. '219 - Col 5, lines 46-63).

Regarding Claim 9, Fuerschbach et al. '578 discloses the heat exchanger as claimed in claim 1, however, he does not disclose the limitation of wherein the heat exchanger is a charge-air/coolant cooler. Kull et al. '219 teaches: a heat exchanger (30, Fig. 3: Col 4, line 8) is a charge-air/coolant cooler (Col 5, lines 15-16) for an internal combustion engine.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Fuerschbach et al. '578 heat exchanger to include the use of a charge-air/coolant cooler as taught by Kull et al. '219 in order to provide a high heat transmission capacity (Kull et al. '219 - Col 6, lines 22-23).

Regarding Claim 10, Fuerschbach et al. '578 discloses the heat exchanger as claimed in claim 1, however, he does not disclose the limitation of wherein the heat exchanger is an oil cooler. Kull et al. '219 teaches: a heat exchanger (30, Fig. 3: Col 4, line 8) is an oil cooler (Col 1, lines 25-27) for an internal combustion engine.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Fuerschbach et al. '578 heat exchanger to include the use of an oil cooler as taught by Kull et al. '219 in order to provide a high heat transmission capacity (Kull et al. '219 - Col 1, lines 18-27).

Regarding Claim 11, Fuerschbach et al. '578 discloses the heat exchanger as claimed in claim 1, however, he does not disclose the limitation of wherein the heat exchanger is an exhaust

Art Unit: 3744

gas cooler. Kull et al. '219 teaches: a heat exchanger (30, Fig. 3: Col 4, line 8) is an exhaust gas cooler (Col 5, lines 16-17) for an exhaust-gas recycling system.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Fuerschbach et al. '578 heat exchanger to include the use of an exhaust gas cooler as taught by Kull et al. '219 in order to provide cooling of exhaust-gas in an exhaust-gas recycling system (Kull et al. '219 - Col 5, lines 18-19).

Regarding Claim 12, Fuerschbach et al. '578 discloses the heat exchanger as claimed in claim 1, however, he does not disclose the limitation of wherein the heat exchanger is an evaporator. Kull et al. '219 teaches: a heat exchanger (30, Fig. 3: Col 4, line 8) is an evaporator (Col 2, line 51, wherein heat exchanger is an evaporator) for an internal combustion engine.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Fuerschbach et al. '578 heat exchanger to include the use of an evaporator as taught by Kull et al. '219 in order to provide cooling for an exhaust-gas of an internal combustion engine (Kull et al. '219 - Col 2, lines 29-32).

Response to Arguments

3. Applicant's arguments, see page(s) 4-5 filed June 30th, 2009, with respect to the rejection(s) of claim(s) 1-12, under 35 USC 103(a) have been fully considered but they are not persuasive.

Regarding claim 1, Applicant argues that Fuerschbach et al. '578 does not disclose or suggest that depressions 48 of the bottom plate 46 have a contour with a shape corresponding to the heat exchange plate 12, as recited in claim 1. Examiner submits that Fuerschbach et al. '578 reference discloses above limitations in Figure 1, Col 4, lines 55-59, wherein a base plate 46 is position beneath the bottom of a heat exchanger12, with the contour shape of a corresponding

Art Unit: 3744

protruding annual portion 18 of the heat exchanger that matches a contour shape of a depression portion 48 of the base plate. Thus, the rejections are proper and remain.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EMMANUEL DUKE whose telephone number is (571)270-5290. The examiner can normally be reached on Monday - Friday; 8:00am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler or Frantz Jules can be reached on 571-272-4834 or 571-272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EMMANUEL DUKE, Examiner
Art Unit 3744
11/05/2009

/Frantz F. Jules/

Application/Control Number: 10/585,971

Page 8

Art Unit: 3744

Supervisory Patent Examiner, Art Unit 3744